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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DAVID M. SKINLO, HIROYUKI YUMOTO and  
DAVID L. DEMUTH

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Appeal 2009-005337  
Application 10/697,537  
Technology Center 1700

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Decided:

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Before ADRIENE LEPIANE HANLON, CHUNG K. PAK, and  
TERRY J. OWENS, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1 through 27, 34 through 38, and 54 through 59, all of the claims pending in the above-identified application. We have jurisdiction under 35 U.S.C. § 6.

## STATEMENT OF THE CASE

The subject matter on appeal is directed a battery and a process for forming the same, wherein the improvement lies in preventing the development of wrinkles in a separator bag<sup>1</sup> used in the battery (Spec. 1, ll. 10-27 and claims 1, 14, 23, and 34). The wrinkles are said to be caused by pinching of the bag resulting from an electrode in the separator bag being thicker than the thicknesses of the seams used to form the bag (Spec. 1, ll. 24-27). Details of the appealed subject matter are recited in representative claims 1, 14, 23, and 34<sup>2</sup> reproduced from the Claims Appendix to the Appeal Brief (“App. Br.”) filed July 16, 2008 as shown below:

1. A battery, comprising:

one or more separator materials formed into a bag having at least two seams, the seams positioned so as to define a perimeter of a pocket configured to receive an electrode within the bag,

the seams being arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket, and

at least one of the seams including a spacer positioned between portions of the one or more separator materials joined by the at least one seam.

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<sup>1</sup> Appellants have not acknowledged that batteries having separator bags formed with seams discussed at the BACKGROUND section of the Specification were known in the art at the time the above-identified application was filed. (*See* Spec. 1.) Nor have Appellants acknowledged that wrinkles formed in such separator bags were readily noticeable by one of ordinary skill in the art by simple observation. (*Id.*)

<sup>2</sup> For purposes of this appeal, we decide the propriety of the Examiner’s §§ 102(b) and 103(a) rejections set forth in the Answer (“Ans.”) dated October 17, 2008 based on the claims separately argued in compliance with 37 C.F.R. § 41.37(c)(1)(vii).

14. A battery, comprising:  
an electrode; and  
one or more separator materials formed into a bag having at least two seams that immobilize one portion of the one or more separator materials relative to another portion of the one or more separator materials, the seams defining a perimeter of a pocket that surrounds the electrode.

23. A battery, comprising:  
  
one or more separator materials formed into a bag having seams that immobilize one portion of the one or more separator materials relative to another portion of the one or more separator materials, the seams positioned so as to define a perimeter of a pocket configured to receive an electrode; and  
  
an electrode positioned within the pocket, the electrode having a tab extending from the bag, a tab opening extending through the tab and being open to an edge of the tab.

34. A method of forming battery, comprising:  
  
joining regions of one or more separator materials so as to form the seams of a separator bag,  
  
the seams being positioned so as to define a perimeter of a pocket configured to receive an electrode within the bag,  
  
the seams being arranged such that at least one gap is formed between seams adjacent to one another along the perimeter of the pocket, and  
  
at least one of the seams formed so as to include a spacer positioned between regions of the separator material joined by the at least one seam.

As evidence of unpatentability of the claimed subject matter, the Examiner relies on the following prior art references at pages 2-3 of the Answer:

Robert	4,476,203	Oct. 9, 1984
Crabtree	4,539,271	Sep. 3, 1985
Rossoll	5,314,507	May 24, 1994

Cheu	5,674,641	Oct. 7, 1997
Hercamp	6,001,503	Dec. 14, 1999

Appellants seek review of the following grounds of rejection set forth in the Answer:

1. Claims 14 and 59 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Hercamp;
2. Claim 15 is rejected under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Hercamp;
3. Claims 1, 2, 5-13, 16, 17, 20-22, and 34-38 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp and Robert;
4. Claims 3, 18, and 54 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp, Robert and Rossoll;
5. Claims 4 and 19 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp, Robert, Rossoll, and Crabtree;
6. Claim 23 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp and Cheu;
7. Claims 24-27 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp, Cheu and Robert; and
8. Claims 55-58 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Hercamp, Robert, Rossoll and Cheu<sup>3</sup>. (*See* App. Br. 8.)

RELEVANT FACTS, PRINCIPLES OF LAW, ISSUES, ANALYSES,  
AND CONCLUSIONS

I. CLAIMS 14 AND 59 UNDER 35 U.S.C. § 102(b)

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<sup>3</sup> Appellants have inadvertently omitted Rossoll relied upon by the Examiner in this rejection. (*Compare* Ans. 12 with App. Br. 8.)

Appellants contend that Hercamp does not teach “the seams defining a perimeter of a pocket that surrounds the electrode” as required by claim 14 and “three seams that each includes a spacer” as required by claim 59 (App. Br. 29-31).

Therefore, the dispositive question here is: Has the Examiner demonstrated that Hercamp teaches “the seams defining a perimeter of a pocket that surrounds the electrode” as required by claim 14 and “three seams that each includes a spacer” as required by claim 59 within the meaning of 35 U.S.C. § 102(b)? On this record, we answer this question in the negative.

As stated in *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008):

[U]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.

Here, as acknowledged by the Examiner at pages 3 and 5 of the Answer:

Hercamp et al. teach a microporous battery separator that is sealed along two edges by a method such as heat sealing, ultrasonic welding, or pressure welding (abstract, column 2 lines 45-51). The bottom seal is *a fold* in the separator. An electrode plate is placed within the pocket created by the separator (column 1 lines 54-60). [(Emphasis added.)]

...

...Hercamp et al. fail to teach a spacer.

In other words, the Examiner has acknowledged that Hercamp does not describe “the seams defining a perimeter<sup>4</sup> of a pocket that surrounds the electrode” as required by claim 14 and “three seams that each includes a spacer” as required by claim 59. Although the Examiner attempts to cure such deficiencies by further relying on Hercamp’s Figure 4 at page 3 of the Answer, it does not show any additional features corresponding to the claimed seams defining a perimeter of a pocket or including a spacer. Hercamp’s Figure 4 is no more than “a view in the direction 4-4 of FIG. 2” which according to the Examiner, does not teach the claimed seams defining a perimeter of a pocket or including a spacer as discussed above (Hercamp, col. 2, ll. 22 and 45-55).

Accordingly, we concur with Appellants that the Examiner has not established that Hercamp teaches the claimed seams defining a perimeter of a pocket or including a spacer within the meaning of 35 U.S.C. § 102(b).

## II. CLAIM 15 UNDER 35 U.S.C. § 103

Appellants contend that Hercamp does not provide any reason or suggestion to provide the seams defining four sides of a pocket as required by claim 15.

Therefore, the dispositive question here is: Has the Examiner demonstrated that Hercamp would have provided any reason or suggestion to employ the seams defining four sides of a pocket as required by claim 15 within the meaning of 35 U.S.C. § 103(a)? On this record, we answer this question in the negative.

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<sup>4</sup> According to page 874 of *WEBSTER’S II New Riverside University Dictionary* (1994), the term “perimeter” is defined as “[a] close curve bounding a plane area,” [t]he length of such a boundary,” or [t]he outer limit of an area”.

As is apparent from page 4 of the Answer, the Examiner concludes that:

It would be desirable to make seams on four sides of the separator to reduce the possibility of shorting if the battery was to be used in an application where it might be turned upside down, which might cause the electrodes to slip out of the pocket along the side where there is no seam.

However, this conclusion is speculative and is not supported by any factual findings, including the disclosure of Hercamp. In particular, to reduce the possibility of such shorting, Hercamp teaches that it is desirable to insert a plate (an electrode) into a fold and then bond the two lateral edges of the fold (seams on two sides) (col. 1, ll. 31-39). Hercamp does not require seams on four sides of a pocket as required by claim 15. Nor has the Examiner identified any particular application of a battery, which requires seams to be on four sides of a pocket as required by claim 15.

It follows that the Examiner has not demonstrated that one of ordinary skill in the art, armed with the knowledge imparted by Hercamp, would have been led to employ the seams defining four sides of a pocket as required by claim 15 within the meaning of 35 U.S.C. § 103(a).

III. CLAIMS 1, 2, 5 THROUGH 13, 16, 17, 20 THROUGH 22, AND 34 THROUGH 38 UNDER 35 U.S.C. § 103

The Examiner's § 103 rejection of claims 1, 2, 5 through 13, 16, 17, 20 through 22, and 34 through 38 is premised upon correctness of the Examiner's finding that Hercamp teaches seams defining a perimeter of a pocket. Since the Examiner has incorrectly found that Hercamp teaches seams defining a perimeter of a pocket as indicated *supra* and has not provided any reason for employing an additional seam, in lieu of a folded



bottom edge, to form the seams defining a perimeter of a pocket, we are constrained to reverse this rejection.

#### IV. CLAIMS 3, 18, AND 54

The Examiner's § 103 rejection of claims 3, 18, and 54 is again premised upon correctness of the Examiner's finding that Hercamp teaches seams defining a perimeter of a pocket. Thus, for the reason set forth *supra*, we reverse this rejection as well.

#### V. CLAIMS 4 AND 19

The Examiner's § 103 rejection of claims 4 and 19 is again premised upon correctness of the Examiner's finding that Hercamp teaches seams defining a perimeter of a pocket. Thus, for the reason set forth *supra*, we reverse this rejection as well.

#### VI. CLAIM 23

The Examiner's § 103 rejection of claim 23 is again premised upon correctness of the Examiner's finding that Hercamp teaches seams defining a perimeter of a pocket. Thus, for the reason set forth *supra*, we reverse this rejection as well.

#### VII. CLAIMS 24 THROUGH 27

The Examiner's § 103 rejection of claims 24 through 27 is again premised upon correctness of the Examiner's finding that Hercamp teaches seams defining a perimeter of a pocket. Thus, for the reason set forth *supra*, we reverse this rejection as well.

#### VIII. CLAIMS 55 THROUGH 58

The Examiner's § 103 rejection of claims 55 through 58 is again premised upon correctness of the Examiner's finding that Hercamp teaches

seams defining a perimeter of a pocket. Thus, for the reason set forth *supra*, we reverse this rejection as well.

ORDER

Upon consideration of the record, and for the reasons given, it is

ORDERED that the decision of the Examiner to reject the claims on appeal under 35 U.S.C. §§ 102(b) and 103(a) is REVERSED.

REVERSED

tc

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